

Introduction

Your choice of this product indicates that you are a devotee to excellence in sound reproduction.

We appreciate your patronage and take pride in the long tradition of quality components.

So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with operating features, and system-connection considerations, so that your listening pleasure will be enhanced right from the start. You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability, we have sought to anticipate your needs and desires.

Keep this manual handy for future reference.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model KR-A57R Serial Number _____

Unpacking

Unpack the unit carefully and make sure that all accessories and cables are put aside so they will not be lost. Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820 – 22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Accessories

FM indoor antenna.....	1
AM loop antenna.....	1
AM loop antenna stand.....	1
Remote control unit.....	1
Battery (SUM-3, "AA" or "R6").....	2

Contents

Caution: Read the following pages marked in ⚠ carefully to keep your safety.

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Before applying power

Important!

U.S.A. and Canada

Units shipped to the U.S.A. and Canada are designed for operation on 120 V AC only. These units are not equipped with an AC voltage selector switch and the discussion of such a switch that follows, should be disregarded.

All other countries

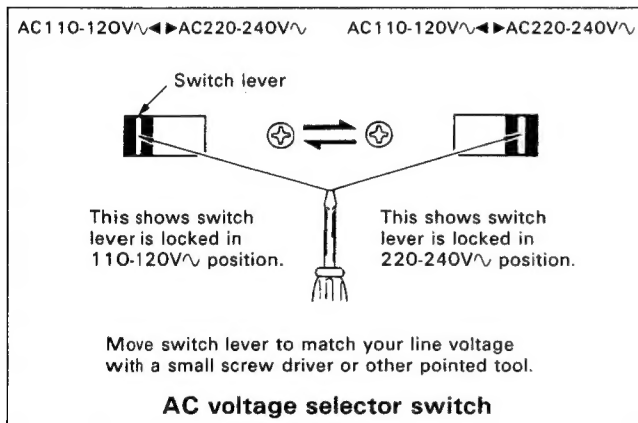
Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

AC voltage selection

These units operates on 110-120 volts or 220-240 volts AC. The AC voltage selector switch of the amplifier is set to the voltage that prevails in the area to which the units was shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:





Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.



Safety precautions

WARNING:

TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

 <div data-bbox="196 1568 446 1657">CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN</div> 	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

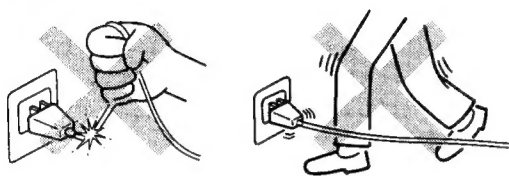
Important safeguards

Please read all of the safety and operating instructions before operating this unit. For best results, follow all warnings placed on the unit and adhere to the operating and use instructions. These safety and operating instructions should be retained for future reference.

1. Power sources – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

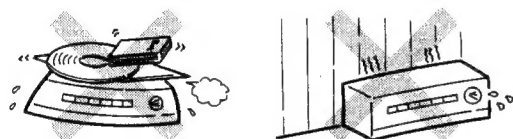
2. Power-cord protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

Never pull or stretch the cord.

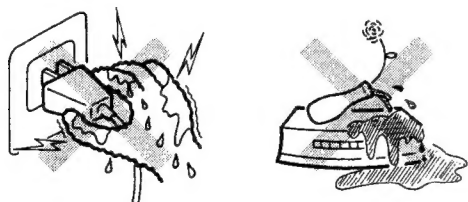


3. Ventilation – The unit should be situated so that its location or position does not interfere with its proper ventilation.

To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls.



4. Water and moisture – The unit should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

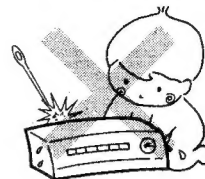


5. Temperature – The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).

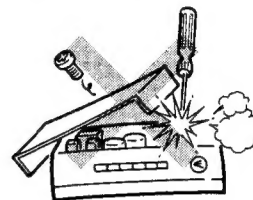
6. Heat – The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.



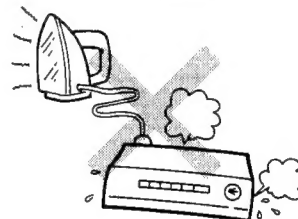
7. Electric shock – Care should be taken so that object do not fall and liquid are not spilled into the enclosure through openings. If a metal object, such as a hair pin or a needle, comes into contact with the inside of this unit, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.



8. Enclosure removal – Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.



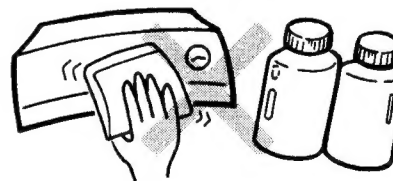
9. AC outlets – Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical units, such as an iron or toaster, to it to prevent fire or electric shock.



The maximum capacities indicated for the AC outlets on the rear panel of the this unit are as follows.

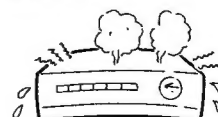
SWITCHED outlets ; 600W

10. Cleaning – Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzine, etc. to clean the cabinet. Use a clean dry cloth.

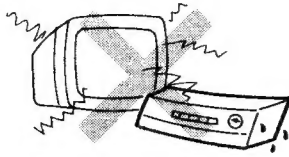


11. Abnormal smell – If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest service station.

POWER OFF!



- 11. Magnetic fields** – Keep the units away from a source of magnetic fields such as TV sets, speaker systems, radios, motorized toys or magnetized objects.



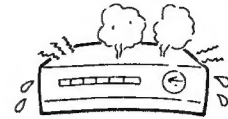
- 12. Cleaning** – Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzine, etc. to clean the cabinet. Use a clean dry cloth.



- 13. Nonuse periods** – The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.

- 14. Abnormal smell** – If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest service station.

POWER OFF!



- 15. Damage requiring service** – The unit should be serviced by qualified service personnel when:
- A.** The power-supply cord or the plug has been damaged; or
 - B.** Objects have fallen, or liquid has been spilled into the unit; or
 - C.** The unit has been exposed to rain; or
 - D.** The unit does not appear to operate normally or exhibits a marked change in performance; or
 - E.** The unit has been dropped, or the enclosure damaged.

- 16. Servicing** – The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

- 17. Outdoor antenna grounding** – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 – 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.

^a Use No.10 AWG (5.3 mm²) copper, No.8 AWG (8.4 mm²) aluminum, No.17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger, as a ground wire.

^b Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 – 6 feet (1.22 – 1.83 m) apart.

^c Mount antenna discharge unit as close as possible to where lead-in enters house.

^d Use jumper wire not smaller than No.6 AWG (13.3 mm²) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j).

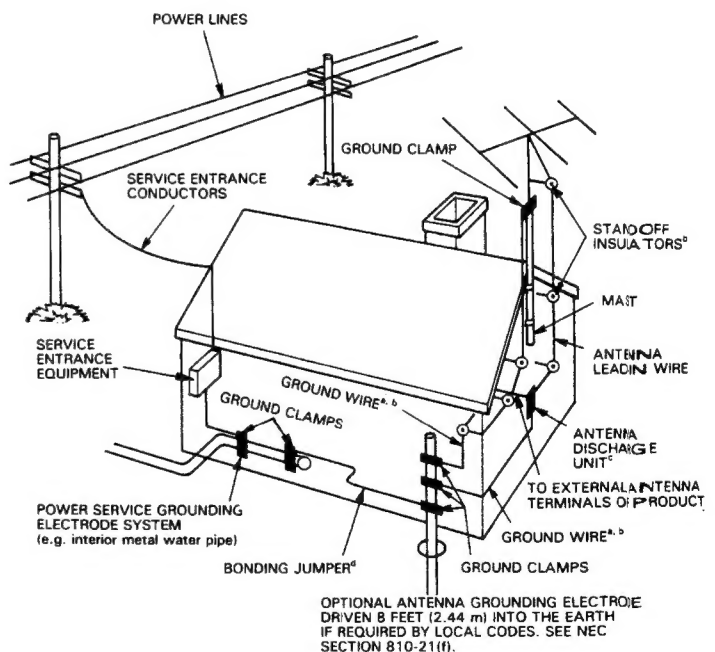


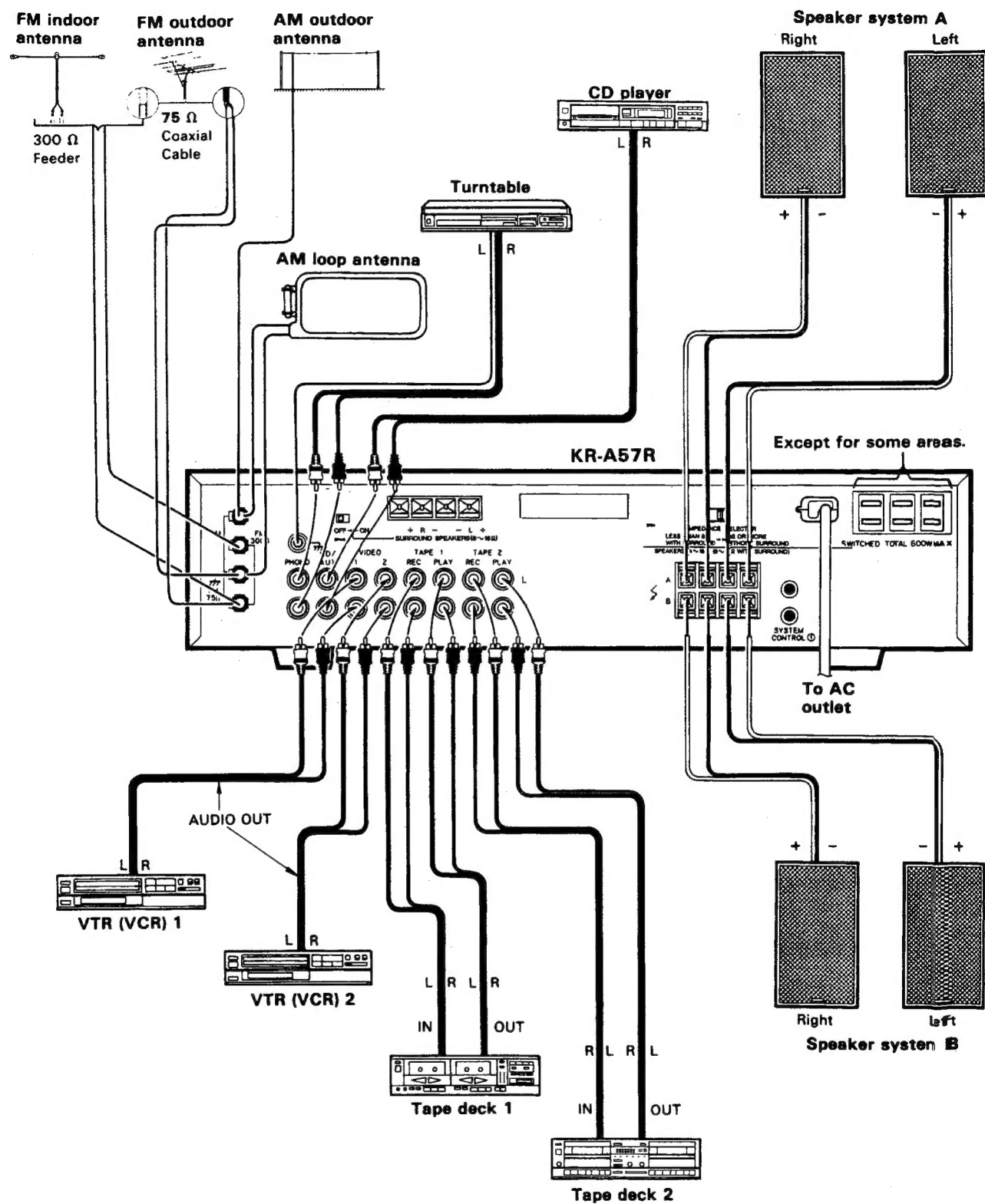
FIGURE
EXAMPLE OF ANTENNA GROUNDING ACCORDING TO
THE NATIONAL ELECTRICAL CODE INSTRUCTIONS
CONTAINED IN ARTICLE 810 – "RADIO AND
TELEVISION EQUIPMENT"

- 18. Power lines** – An outdoor antenna should be located away from power lines.

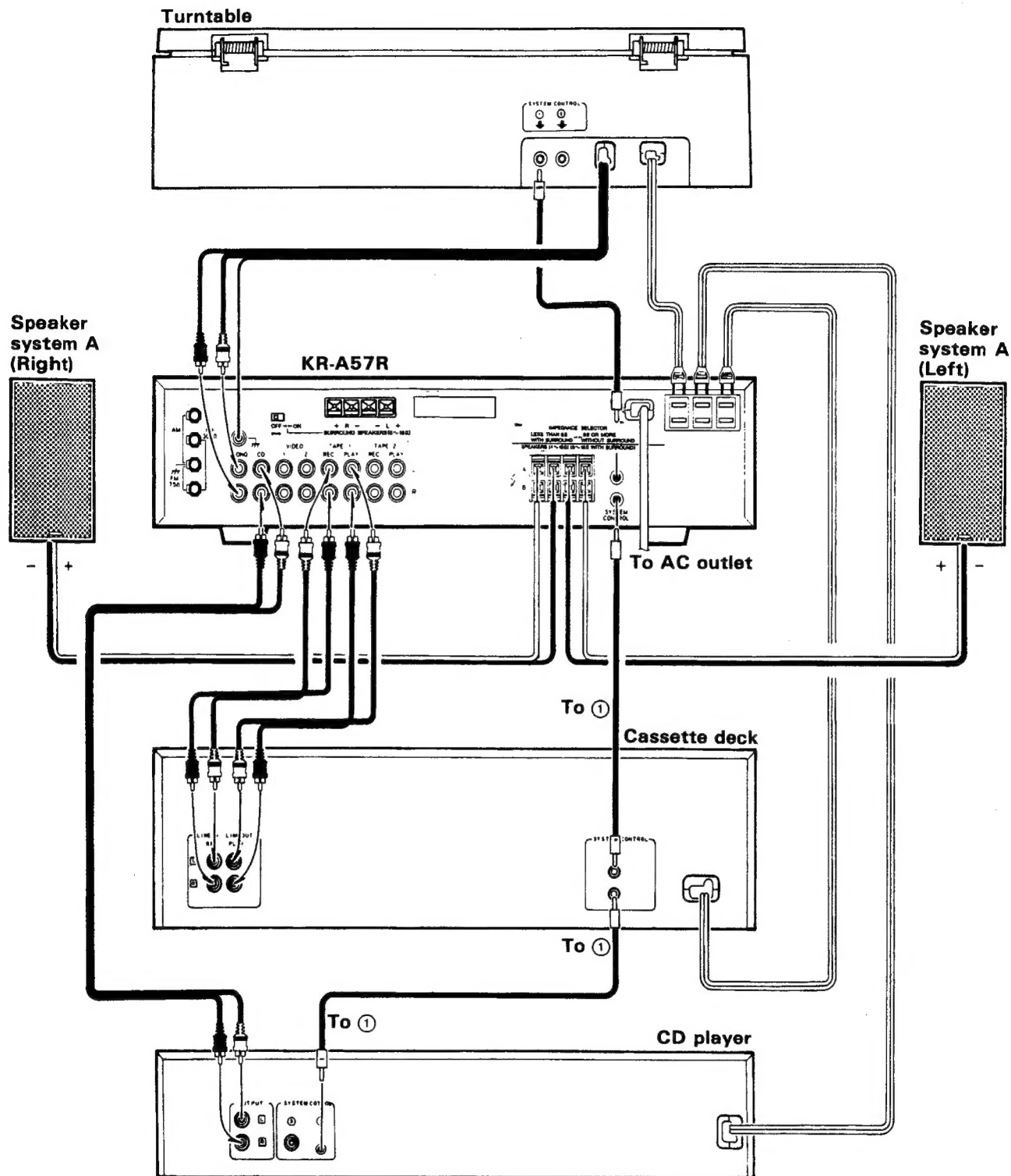
Notes:

1. Item 3 is not required except for grounded or polarized equipment.
2. Item 10 is not required except for units provided with AC outlets.
3. Item 17 and 18 are not required except for units provided with antenna terminals.

System connections



System control connections



SYSTEM CONTROL terminals

When the turntable, tape deck or CD player are used in connection with the receiver, they can be operated from the remote control unit of the receiver when their SYSTEM CONTROL terminals are connected as shown in the figures. (Ordinary audio cable connections are also required.) For details, refer to the operating instructions for the remote control unit on page 14 and SYSTEM CONTROL operation on page 13.

Front speakers terminals

This unit has two pairs of speaker terminals, SPEAKERS A and SPEAKERS B.

Connecting one speaker system

Connect speakers rated at 4 ohms or more to the SPEAKERS A terminals.

Connecting two speaker systems

To connect an additional pair of speakers, use the B terminals. In this case, each speaker must be rated at 8 ohms or more.

SURROUND SPEAKERS terminals

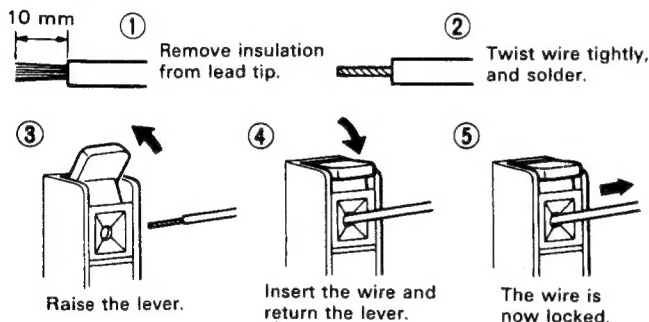
Connect speakers having an impedance of between 8 ohms and 16 ohms, and place them to the left and right behind the listening position.

Connecting with speaker cords

1. Connect the left speaker to the [L] SPEAKERS terminals and the right speaker to the [R] SPEAKERS terminals.
2. Be careful that wires do not contact adjacent terminals.
3. Be sure to connect the (+) terminal of the speaker to the (+) terminal of the unit.

Never short the (+) and (-) terminals.

Erroneous connection of speakers may result in poor imaging or unnatural sound.



Speaker lead connection

Setting IMPEDANCE SELECTOR

CAUTION

Speaker impedance selector:

When connecting one pair of speakers to the SPEAKERS A or B terminals, set the IMPEDANCE SELECTOR according to the speaker impedance.

4 Ω , 6 Ω → "LESS THAN 8 Ω WITH SURROUND"

8 Ω , 16 Ω → "8 Ω or MORE WITHOUT SURROUND"

When using the surround speakers, the impedance of the speakers connected to the SPEAKERS A or B terminals should be more than 8 ohms.



IMPEDANCE SELECTOR

LESS THAN 8 Ω
WITH SURROUND

8 Ω or MORE
WITHOUT SURROUND

- When using a surround system, be sure to set the IMPEDANCE SELECTOR switch to the "WITH SURROUND" position.

Notes:

1. During speaker system connection and operation of SPEAKER IMPEDANCE SELECTOR, set the POWER switch to OFF.
2. Check that the connected lead wires of the speaker systems do not contact with other jacks or terminals.

PHONO jacks

The PHONO jacks of the unit can accept a turntable with an MM type phono-cartridge.

Your stereo turntable has RCA pin-plug cord that is terminated with phono plugs. Plug the left channel plug into the [L] and right channel plug into the [R] PHONO jacks. If the turntable has a ground wire, connect it to the unit's GND terminal to avoid hum.

GND (Ground)

For maximum safety and minimum interference connect the GND terminal to a good earth ground if practicable. A good earth ground is a metal stake driven into moist earth. However, never use a gas pipe for this purpose.

CD/AUX jacks

To these jacks, high-level signal sources such as, CD player, tuner, extra tape decks, TV, VCR sound outputs, etc. can be connected

Tape 1, 2 jacks

If only one tape deck is to be connected to the system it is recommended that it be connected to the jacks marked TAPE 1. (If your tape deck is equipped with a 3 head system, connect to the jacks marked TAPE 2. The simultaneous monitoring can be possible.) Tape deck input and output cables are normally terminated with phono plugs.

Playback

Plug the left and right output cables of the tape deck into the [L] and [R] TAPE 1 PLAY jacks.

Record

Plug the left and right input cables of the tape deck into the [L] and [R] TAPE 1 REC jacks.

Second tape deck

Plug the input and output cables from the second tape deck into the REC and PLAY jacks marked TAPE 1 OR 2.

VIDEO (audio) 1, 2 jacks

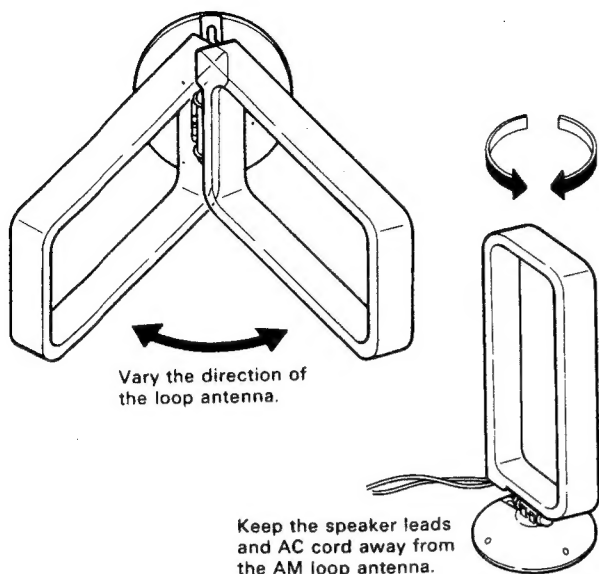
Two video recorders can be connected to the VIDEO 1 and VIDEO 2 jacks. VIDEO jacks are used to connect the audio output terminals of a video recorder. (Never connect these jacks to the video output of the video recorder.)

AM antennas

AM loop antenna

Install the AM loop antenna to the supplied loop antenna stand and place them on a shelf, etc., or install them in the rack or wall with screws.

Rotate the AM loop antenna to the right or left for best reception.



Note:
Do not place the AM loop antenna on the unit. As this unit employs computing device, placing the AM loop antenna on the unit may result in noise generation. Place the AM loop antenna away from the unit.

AM outdoor antenna

In steel buildings or at a great distance from the transmitter, it may be necessary to install an outside long wire antenna. The end of this wire should be stripped of insulation and connected to the AM terminal. At this time, keep the loop antenna connected.

FM antennas

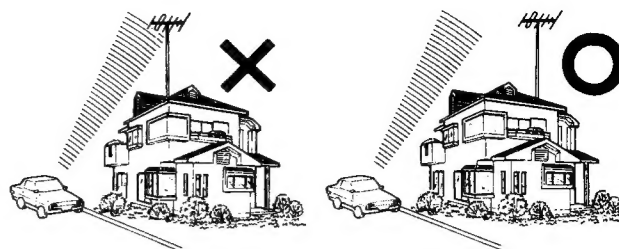
Your unit approaches the theoretical limit in FM sensitivity. However, the performance of your system is determined to a very large extent upon the signal conditions where the antenna is placed. The reason is that FM broadcast signals travel in straight paths. Therefore they can be blocked by natural or man-made obstructions such as mountains, hills, or buildings. At large distances from the transmitter the curvature of the earth acts as a screen between transmitter and receiver.

Consider the signal conditions in planning your installation. If you live in or near an urban area the indoor antenna (supplied) may serve your needs adequately.

However, if desired stations are weak due to natural obstructions, or if you live in a building which is made of steelreinforced concrete (which acts as a shield) it may be necessary to install a good outdoor antenna.

FM outdoor antenna

Consult with your dealer or service man about the best method of selecting and erecting an outdoor FM antenna. The choice of lead-in (feeder) wire is also important. The flat ribbon-shaped twin lead performs well electrically, is cheaper and is somewhat easier to handle routing through windows and around rooms. Coaxial cable is more expensive, does a much better job of minimizing interference, is less prone to the effects of weather and close-by metal objects, and is nearly as good a signal conductor as the ribbon type wire. The latter is particularly true of foam-type coaxial cables. Coaxial cable is somewhat more difficult to install at the point where the cable enters the building. If coaxial cable is selected, make sure the antenna is designed to drive that type of cable.



- To minimize auto-ignition noise, locate the antenna as far from heavy traffic as possible.
- Keep the feeder or coaxial cable as short as possible. Do not bundle or roll up excess cable.
- The antenna should be at least two meters (6.6 feet) from reinforced concrete walls, or metal structures.

FM outdoor antenna setting

FM indoor antenna

Connect the T-shaped indoor antenna (supplied) to the 300 ohm FM ANTENNA terminal as shown in the system connections diagram. Spread the two arms that form the top of the "T" horizontally and hold them against convenient wall surfaces. Try several locations for best results on your desired stations. Tape the antenna in place where the best compromise is found between listening results and appearance.

AC outlets (SWITCHED outlets)

The AC outlets on the rear panel of the unit may be used to supply power to other components in the system, such as turntables, tape decks, etc. Never connect equipment whose power consumption exceeds the maximum value. The maximum total capacity is 600 watts.

FM DE-EMPHASIS switch (Exept for some areas)

This switch has been set to the correct position for a given market area. However, check to see that this switch is set correctly before operating your unit. An incorrect setting will adversely affect high-frequency performance.

Europe and Oceania	50 μ s
Other countries	75 μ s

CHANNEL SPACE switch
(Exept for some areas)

The CHANNEL SPACE switch is set to the correct setting that prevails in the area to which the unit is shipped. However, if the channel space setting is not matched to the area where the unit is to be used; for instance, when you moved from area 1 to area 2 or vice versa, desired reception of AM/FM broadcasts is not expected. In this case, change the CHANNEL SPACE setting in accordance with the area corresponding to the shown below.

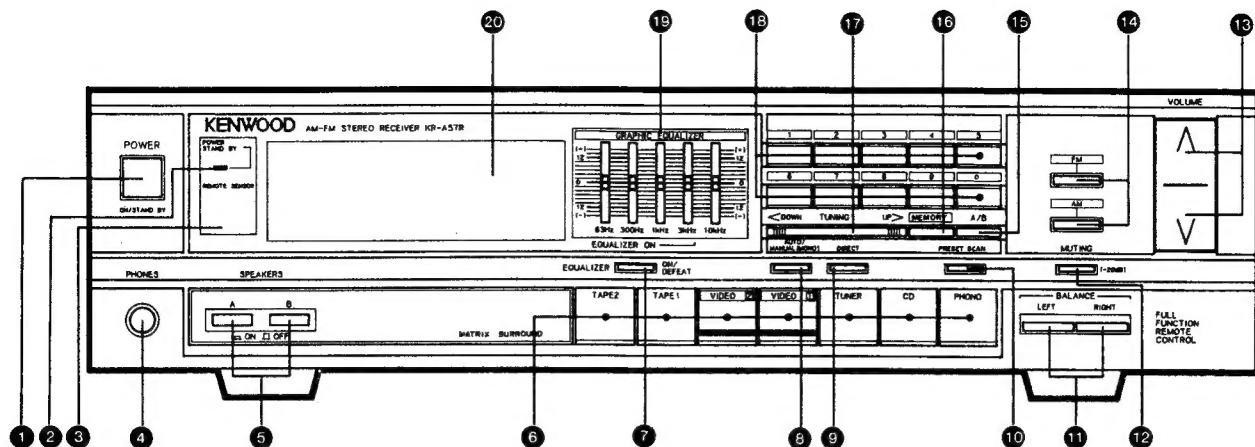
Area	Channel Space Frq.
1. U.S.A., Canada Hawaii, and Guam	FM: 100kHz AM: 10kHz
2. European countries Far East countries	FM: 50kHz AM: 9kHz

Channel space table

Note: When changing the setting of the CHANNEL SPACE switch, first disconnect the power cord, then reset the channel space switch connect the power cord again, and turn the power on.

CHANNEL SPACES	FM DE-EMPHASIS
FM 50 kHz <▷	FM 100 kHz
AM 9 kHz <▷	AM 10 kHz
	50 μs <▷ 75 μs

Controls, indicators and connectors



1 POWER switch

By pressing this switch, the power of the unit and the power of the equipment connected to the SWITCHED AC outlet can be switched ON/OFF.

When this switch is pressed, the function selected last or the last station to be received will be displayed. You can operate the switch from a distance with the RC-70 (remote control unit).

2 REMOTE POWER STAND BY indicator

Lights when the power cord is connected to the AC outlet. When this indicator is lit, the POWER switch or POWER key of the remote control unit can be operated.

3 REMOTE SENSOR

Point the supplied remote control unit towards this sensor and operate.

4 PHONES jack

Stereo headphones are plugged into this jack.

5 SPEAKERS switch

A, B OFF - This position silences all speakers to permit private use of headphones.

A ON - Activates speakers connected to the SPEAKERS A terminals on the rear panel.

B ON - Activates speakers connected to the SPEAKERS B terminals on the rear panel.

A, B ON - Activates speakers connected to the SPEAKERS A and B terminals simultaneously.

Note:

When the SPEAKER A and B switches are used at the same time, the speakers connected to the SPEAKERS A and B terminals are connected in series. In this respect, whenever using the SPEAKER A and B switches at the same time, be sure that two pairs of speakers are connected to the terminals A and B, otherwise no sound is output.

6 INPUT SELECTOR switches

TAPE 1 - Used to play back a tape deck connected to TAPE 1 jacks.

TAPE 2 - Used to play back a tape deck connected to the TAPE 2 jacks. (The TAPE-2 switch is operated in priority to any other audio input switches.)

VIDEO 1 - Selects the video recorders connected to the VIDEO 1 jacks.

VIDEO 2 - Select the video recorders connected to the VIDEO 2 jacks.

TUNER - Selects the tuner mode for FM or AM reception.

CD - Selects the source connected to the CD jacks.

PHONO - Selects the program source played on the turntable.

Note:

If the setting of the INPUT SELECTOR switch cannot be changed, press other INPUT SELECTOR switch, then press the desired INPUT SELECTOR switch again.

7 GRAPHIC EQUALIZER switch

Press this switch to ON and the frequency characteristic will be modified by passing through the graphic equalizer. In the DEFEAT position, the frequency characteristic remains unchanged.

The ON indicator lights when the switch is set to ON.

8 AUTO/MANUAL (MONO) switch

Press this switch to select the tuning mode between AUTO or MANUAL (MONO). In MANUAL (MONO) mode, FM stereo broadcast is received in monaural.

9 DIRECT key

Press this key while listening to a radio broadcast to set the unit to the direct tuning mode so that the frequency of the desired station can be entered with the numeric keys. Press to set to the direct input standby mode. Press again to return to the last memory of the tuner.

10 PRESET SCAN key

Use this key for preset channel scanning. When a frequency stores in the preset memory is being received, pressing this key shifts the reception to the next frequency in the preset memory. (The preset channels are scanned in the order A-1, ..., A-0, B-1, ..., B-0.)

11 BALANCE control key

Governs the amount of sound coming from each paired speakers to get optimum stereo effect.

Pressing the RIGHT key will decrease the left channel volume and pressing the LEFT key will decrease the right channel volume. When the BALANCE control is pressed, display window shows the BALANCE indicator.

12 MUTING switch

When the muting switch is pressed, the MUTING indicator in the display window will flash, and the overall listening sound level is reduced by -20 dB.

When the switch is pressed again, you can restore exactly the same listening level as before.

13 VOLUME control key

This control adjusts the left- and right-channel volumes simultaneously. Set it for the desired listening level. Pressing the up () key increases the volume and pressing the down (V) key decreases it.

When VOLUME control is pressed, the frequency display shows volume level in decibel.

Note:

A slight noise is heard from the speakers when operating the VOLUME controls. This noise is the built-in microprocessor control signal and is not a fault.

14 FM, AM band switches

FM – For FM broadcasts (The FM indicator lights.)

AM – For AM broadcasts (The AM indicator lights.)

This switch has the same function as that of the TUNER switch of the INPUT SELECTOR. It is therefore possible to switch directly to the radio reception mode (FM or AM) from any other input mode.

15 Preset A/B switch

Each time this button is pressed, PRESET mode A and B is selected alternately (at this time, A or B indicator lights in the display window).

In either FM or AM, 10 stations can be stored into A and B respectively, by frequency. In total, frequencies of up to 20 stations can be preset with this unit.

16 MEMORY key

When the input mode is in tuner mode, use this key to store new frequencies in the preset channel memory.

By pressing the MEMORY key, setting the PRESET key to A or B and by pressing one of the preset channel key, the frequency being received is stored in memory in the preset channel key pressed.

17 UP/DOWN TUNING keys

Auto tuning mode – When the UP or DOWN key is pressed, the frequency automatically increases or decreases until the next station of sufficient signal strength is reached.

Manual tuning mode – Each time the UP or DOWN key is pressed, the tuned frequency increases or decreases in the following manner.

FM – 50/100 kHz steps

AM – 9/10 kHz steps

Refer to page 6 "CHANNEL SPACE switch."

If either key is held down more than half a second, the tuned frequency will continue to increase or decrease until the key is released.

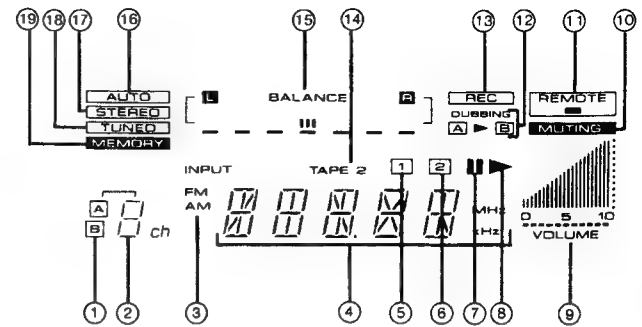
18 PRESET (numeric) keys

Used to store and recall frequencies in the preset memory. The receiver enters directly to the radio reception mode of the required station from any other input mode by pressing the corresponding PRESET key.

19 GRAPHIC EQUALIZER controls

Adjust these controls up and down to equalize the sound by ± 12 dB to the center frequency indicated.

20 Display window



- 1 "A" or "B" lights according to the selection of the PRESET FUNCTION buttons.
- 2 Displays the preset channel.
- 3 Displays the tuner input mode. "FM" lights during FM broadcast reception, "AM" lights during AM reception and "INPUT" lights during selection of the INPUT SELECTOR without TUNER.
- 4 Displays the input mode display, digital frequency display and decibel displays.
- 5 Lights when the VIDEO 1 of INPUT SELECTOR is pressed.
- 6 Lights when the VIDEO 2 of INPUT SELECTOR is pressed.
- 7 This indicator lights when the PAUSE key of the tape deck or CD player is pressed during operation.
- 8 This indicator lights when the PLAY key of the tape deck or CD player is pressed during operation.
- 9 Indicates the audio volume.
- 10 Flashes when the MUTING switch is pressed.
- 11 This indicator lights when the unit is operated with the remote control unit.
- 12 This indicator lights when tape-to-tape dubbing (copying) is performed with the double deck connected to the TAPE 1 jacks corresponding to that of input selector.
- 13 This indicator lights when the tape deck connected to the TAPE 1 jacks corresponding to that of input selector is set to the recording mode.
- 14 Lights when the TAPE 2 of INPUT SELECTOR is pressed.
- 15 Indicates the volume balance between left and right.
- 16 In tuner mode, lights during AUTO tuning.
- 17 In tuner mode, lights when a stereo broadcast is tuned in.
- 18 In tuner mode, lights when a station is tuned in.
- 19 In tuner mode, lights when a station is tuned in by memory selection.

Operating instructions

Broadcasting reception

Auto tuning (Almost all stations can be tuned in.)

1. Press the POWER switch, and then the TUNER switch of the INPUT SELECTOR.
2. Select FM or AM with the FM/AM selector switch.
3. Set the tuning mode switch to AUTO.
4. Press the down or up side of the TUNING key to start the tuning system in the direction of the required station.
Release when the FREQUENCY DISPLAY shows that you are approaching the required station. The auto tuning will stop automatically when the station is received, and the FREQUENCY DISPLAY will show the channel frequency.
If the auto tuning stops at an unwanted station before it reaches the required station, press the DOWN or UP side of the TUNING key again.
5. Adjust the VOLUME control to the required listening level and use the GRAPHIC EQUALIZER control to adjust the sound to your own preference.

DIRECT tuning

1. Select FM or AM with the FM, AM selector switch.
2. Press the DIRECT key.
3. Input the desired frequency with PRESET channel keys.
4. The receiver enters the radio reception mode just after the frequency value has been input.
(If the input value is outside the tuning range, the frequency display flashes for 5 seconds and the receiver returns to the radio reception mode of the last channel.)

Manual tuning (to receive a weak broadcast)

1. Select FM or AM with the FM/AM selector switch.
2. Set the tuning mode switch to MANU.
3. To receive a weak broadcast, FM mode is set to MONO automatically.
4. Press the down or up side of the TUNING key to start the tuning system in the direction of the required station.
Release when the FREQUENCY DISPLAY shows the required frequency. If the tuning does not stop at the required station, tap the down or up side.
5. Adjust the VOLUME control to the required listening level and use the GRAPHIC EQUALIZER control to adjust the sound to your own preference.

Preset procedures

Up to 20 stations can be preset in either the AM or FM bands.

1. Select AM or FM with the FM/AM selector switch.
2. With the AUTO or MANUAL tuning, tune the unit to the required station.
3. Select A setting with the PRESET A/B switch.
4. Press the MEMORY button.
5. Press one of the PRESET channel (Numeric) key within 5 seconds after the MEMORY key is pressed.
6. For B setting preset, select B setting with the PRESET A/B switch, and follow the same preset procedures as above (2-5).

Note:

When a PRESET channel key is pressed to preset a new frequency, the old frequency is cleared and the new frequency is stored.

Listening to a preset station

1. Select A or B setting with the PRESET A/B switch.
2. Press the PRESET channel key for the required station.

3. Adjust the VOLUME control to the required listening level and use the GRAPHIC EQUALIZER controls to adjust the sound to your own preference.

Record playing

1. Press the PHONO switch of the INPUT SELECTORS.
2. Operate the turntable.
3. Adjust the VOLUME control to the required listening level and use the GRAPHIC EQUALIZER controls to adjust the sound to your own preference.

CD

1. Press the CD switch of the INPUT SELECTORS.
2. Operate the component connected to the CD/AUX jacks.
3. Adjust the VOLUME control to the required listening level and use the GRAPHIC EQUALIZER controls to adjust the sound to your own preference.

Tape decks

Tape playback

1. Press the appropriate TAPE (1 or 2) button to select output from a tape deck connected to the TAPE 1 or 2 jacks.
2. Operate the tape deck.
3. Adjust the VOLUME controls to your preference.

Note:

When both buttons (TAPE-1 and TAPE-2) are pressed, Tape-2 setting has priority.

Recording

1. Press the appropriate INPUT SELECTOR switch.
2. Set up your tape deck (s) for recording and set the recording level with the controls on your tape deck(s).
3. Adjust listening level at the unit to suit your listening preference.

Notes:

1. During recording with the cassette deck, the INPUT SELECTOR on the receiver is fixed at the source from which the recording is made, by the system control circuit. At this time, pressing any of the INPUT SELECTOR buttons does not function even when it is pressed. (TAPE-1)
2. The TAPE-2 selector switch has priority over the input selector switches. To listen to the source other than tape deck 2, be sure to set this switch to OFF.
3. Do not press the TAPE-2 switch while recording on the cassette deck connected to the TAPE-2 jacks.
4. To monitor with a three-head tape deck, set the tape deck accordingly.

Tape dubbing

Tape recordings may be duplicated (dubbed) easily using two tape decks connected to the TAPE 1 and 2 jacks.

For example:

(TAPE 1 to 2);

1. Connect two tape decks to the TAPE 1 and TAPE 2 jacks.
2. Press the TAPE-1 switch.
3. Play back the recorded tape and adjust the recording levels before starting tape dubbing.

(TAPE 2 to 1);

1. Press the TAPE-2 switch.
2. Play back the recorded tape and adjust the recording levels before starting tape dubbing.
3. Do not press the TAPE-1 switch during recording with tape deck 1.

Note:

Adjust record levels on the deck that is making the copy using that deck's operating controls.

VIDEO (audio sound)

1. Press the appropriate VIDEO (1 or 2) button of the INPUT SELECTOR to select output from a video recorder connected to the VIDEO (1 or 2) jacks.
2. Operate the video recorder.
3. Adjust the VOLUME controls for your preference.

GRAPHIC EQUALIZER operation

1. Select the desired source and play back it.
2. Press the GRAPHIC EQUALIZER switch to ON.
3. Slide the equalizer level control knobs so that the equalized sound is heard from the speakers as desired.
4. The equalized sound sources can be recorded onto the tape (cassette) deck connected to the TAPE-1 jacks, VIDEO 1 and/or VIDEO 2 jacks on the rear panel of this unit.

Never turn off the power of the unit in the middle of dubbing.

How to listen to the surround speakers

1. Connect the speakers to the SURROUND SPEAKER terminals on the rear panel of this unit.
2. Set the SPEAKER IMPEDANCE SELECTOR on the rear panel to the "LESS THAN 8Ω WITH SURROUND" position.
3. Set the SURROUND SPEAKER ON/OFF switch to ON.

Note:

When the surround speaker is not in use, set the SURROUND SPEAKER ON/OFF switch to OFF.

System control operation

Connection

Using the system control cord provided (with the European version of the KR-A57R only, and provided with the system component models as below designated for other areas), make connections as shown on page 6.

The following models are available for the system control operations.

Turntable: KD-77F, KD-67F
Cassette deck: KX-97CW, KX-87CR, KX-77CW or KX-67W
CD player: DP-87, DP-57, DP-47, DP-M107R, DP-M97 or DP-M97R

Note:

Some models provide two or three system control jacks. However, when used with this receiver, be sure to connect the system control cord to the jack having a indication of (1).

Operation**1. Automatic play operation**

When starting play with the turntable, cassette deck or CD player connected to the receiver, press the desired INPUT SELECTOR switch on the receiver. The turntable, cassette deck or CD player will automatically enter the play mode.

In the same way, pressing the Play key of the turntable, cassette deck or CD player will automatically switch the INPUT SELECTOR on the receiver to the equipment on which the Play key is pressed.

2. Synchro recording

To record the sound from the turntable or CD player onto the tape with the cassette deck, press the PLAY (START) key of the turntable or CD player. The cassette deck will start recording automatically, synchronized with the turntable or CD player starting play. For more details, refer to the instruction manual of the cassette deck.

3. Remote control

When the remote control unit provided with this unit, to which the turntable, cassette deck or CD player is connected, is equipped with related control keys, the related component can be controlled using these keys.

Note:

During recording with the cassette deck, the INPUT SELECT on the receiver is fixed at the source from which the recording is made, by the system control circuit. At this time, pressing any of the INPUT SELECTOR buttons does not function even when it is pressed.

Play key (▶)

Press to start playback in forward direction. (Front side playback)

Pause key (⏸)

Press to stop play back or recording momentarily.

Record key (REC) (●)

Press to start recording.

⑥ Input selector keys

PHONO: To listen to a source from the turntable connected to the PHONO jacks, press this switch.

CD: To listen to a source from the CD player connected to the CD jacks, press this switch.

TUNER: To listen to a source from the tuner connected to the TUNER jacks, press this switch.

TAPE-1: To listen to a source from the tape deck connected to the TAPE 1 jacks, press this switch.

TAPE-2: To listen to a source of the tape deck, etc., connected to the TAPE 2 jacks, press this switch.

VIDEO 1: To listen to a source from the equipment connected to the VIDEO 1/AUX jacks, press this switch.

VIDEO 2: To listen to an audio source from video cassette recorder connected to the VIDEO 2 jacks, press this switch.

Note: VIDEO 3/AUX do not function with this unit.

⑦ POWER switch (U.S.A. and military models)

AUDIO: Press to turn the stereo system ON. Press again to turn the stereo system OFF.

TV: Press to turn the TV ON. Press again to turn the TV off.

⑦ POWER switch (other models)

Press to turn the power on for whole system.

⑧ TV (KMT-1026, KMT-2026S) operation keys (TV FUNCTION) (U.S.A. and military models)

Note: With the supplied remote control unit, only KMT-1026, KMT-2026S (monitor TV) can be operated.

TV/VIDEO key

Use this key to select the type of signal that the monitor will receive: TV, VIDEO 1 or VIDEO 2.

RECALL key

Press the recall key and both the time and channel will be displayed continuously. Press it again and they will disappear. The timer function can be utilized as well but the time will not continuously be displayed.

Channel tuning UP/DOWN keys (TV CH.) (Δ/▽)

Press the channel up (Δ) key to tune in higher channels, and the channel down (▽) key to tune in lower channels. Press the key continuously until the channel number you wish to receive appears on the upper right side of the screen.

ANT/AUX key

Press this key to set the ANT and AUX indicator to agree with the antenna input source.

**TIMER key**

Press the timer key to set desired time.

VOLUME keys

Apply steady pressure to the VOLUME UP or DOWN buttons, to increase or decrease the volume as desired.

⑨ Surround volume keys (REAR LEVEL)

These surround volume keys (REAR LEVEL) function the same as the LEVEL (UP, DOWN) keys on the optional SS-97 Surround processor.

● This key is effective only when the optional SS-97 Surround Processor is used.

⑩ MUTING key (MUTE)

Press to decrease the volume level instantaneously.

Pressing it again resumes the previous volume level.

When this key is pressed, to minimize the volume, the power switch OFF and ON.

⑪ VOLUME keys (UP/DOWN)

Controls the volume of the speakers and headphones.

Press the UP (Δ) key to increase the volume level and, press the DOWN (▽) key to decrease it.

Note: The volume is raised up to the level preset at the control amplifier.

⑫ Turntable (KD-77F, KD-67F) operation keys (PHONO)**Play key (<)**

Press to start record play automatically.

For KD-67F, select the record size when turning the power on, before starting play with this key.

Stop key (■)

Press to stop play; the tonearm returns to the rest and the platter stops rotating.

Auto function

(PHONO, TUNER, CD, TAPE, VIDEO)

For example, when you listen to the record, pressing the VIDEO 1 key enters the units VIDEO mode and vice versa.

In case of difficulty

If your unit should not perform as expected, consult the table below to see if the problem can be corrected before seeking help from your dealer or service representative.

Symptom	Causes	Remedy
No power, no sound.	1. Power cord not plugged in. 2. Poor connection at wall outlet. Power outlet inactive.	1. Check plug contact. 2. Check outlet using a lamp or other appliance (outlet may be controlled by a wall switch).
No sound from left and right.	1. Speaker cords disconnected. 2. speakers switched off.	Check speaker connections. 2. Check speaker switch.
Sound from left or right, but not both.	1. Poor speaker connections.	1. Check connections at both ends of speaker cord.
Occurs during AM reception only	Cause	Remedy
High-frequency whistle especially at night.	Interference from TV set.	Turn off TV set, if problem disappears try relocating TV set.
Intermittent buzz or cracking sound.	Lightning. Fluorescent lamps starting. Appliance or furnace starting.	No remedy. Try reversing AC plug. Try reversing AC plug.
Occurs during FM reception only	Cause	Remedy
Hiss that gets worse in stereo reception.	Very weak antenna input signal.	Consider an outdoor antenna installation. In areas remote from the transmitter a 5 to 8 element antenna designed exclusively for FM is suggested.
Rhythmic static or popping noises.	Automobile ignition noise, especially evident when receiving weak signals.	Review antenna installation. Site the antenna as far from the street as possible and use coaxial cable.
STEREO indicator fails to light during stereo broadcast.	Another possible effect of a very weak signal.	Antenna system needs attention (see above).

Specifications

AUDIO SECTION

Power Output

55 watts per channel minimum RMS, both channel driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.08% total harmonic distortion.

60 watts per channel minimum RMS, both channel driven into 8 ohms at 1 kHz with no more than 0.08 % total harmonic distortion

Total Harmonic Distortion

(20 Hz-20,000 Hz,
8 ohms)..... 0.08% at 55W
(1 kHz, 8 ohms)..... 0.01% at 55W

Intermodulation

distortion..... 0.08% at 55W

Input sensitivity/Impedance

PHONO (MM)..... 3.0 mV/47 kohms
CD/AUX, TAPE,
VIDEO..... 200 mV/47 kohms

Frequency Response

PHONO (RIAA standard Curve)..... 20 Hz-20,000 Hz... ± 0.5 dB
TAPE, CD/AUX..... 10 Hz-70,000 Hz... $\begin{smallmatrix} +0 \\ -3 \end{smallmatrix}$ dB

Signal to Noise Ratio

PHONO (MM)..... 73 dB
TAPE, CD/AUX,
VIDEO..... 100 dB

Graphic Equalizer

Center Frequency..... 63 Hz, 300 Hz, 1kHz,
3 kHz, 10 kHz
Control Range..... ± 12 dB

FM TUNER SECTION

Tuning Frequency

Range..... 87.5 MHz-108 MHz
Antenna Impedance..... 300 ohms balanced
75 ohms unbalanced

Usable Sensitivity..... 11.2 dBf (2.0 μ V)

50 dB Quieting Sensitivity

MONO..... 17.2 dBf (4 μ V)
STEREO..... 38.2 dBf (45 μ V)

Signal to Noise Ratio at 65 dBf

MONO..... 76 dB
STEREO..... 72 dB

Total Harmonic Distortion at 1,000 Hz

MONO..... 0.2%
STEREO..... 0.3%

Frequency Response..... 30 Hz-15,000 Hz $\begin{smallmatrix} +0.5 \\ -2.5 \end{smallmatrix}$ dB

Stereo Separation..... 40 dB at 1,000 Hz

Selectivity..... 53 dB at 400 kHz

Capture Ratio..... 1.2 dB

Image Rejection Ratio 40 dB

IF Rejection Ratio..... 86 dB

Spurious rejection Ratio. 80 dB

AM Suppression Ratio.... 57 dB

AM TUNER SECTION

Tuning Range..... 530 kHz-1,610 kHz (with
the AM tuning interval set
at 10 kHz)

531 kHz-1,602 kHz (with
the AM tuning interval set
at 9 kHz)

Usable Sensitivity..... 15 μ V (440 μ V/m)

Signal to Noise Ratio 50 dB

Selectivity..... 25 dB

GENERAL

Power Consumption 2.5A.....U.S.A. model
150 W.....Others

Dimensions W:420 mm (16-9/16")
H :109 mm (4-5/16")
D :229mm (9")

Weight..... Net. 5.3 kg (11.7 lb)

Note: _____
We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.

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